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S/N.: 09/302,154
IBM Docket: YO999-214



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Pednault, E.

Serial No.: 09/302,154

Filed: April 29, 1999

Group Art Unit: 3626

Examiner: Kapadia, M.

For: A METHOD FOR CONSTRUCTING SEGMENTATION-BASED PREDICTIVE
MODELS FROM DATA THAT IS PARTICULARLY WELL-SUITED FOR
INSURANCE RISK OR PROFITABILITY MODELING PURPOSES

Honorable Assistant Commissioner of Patents
Washington, D.C. 20231

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GROUP 3600

RESPONSE TO EXAMINERS'
REQUEST DURING PERSONAL INTERVIEW

Sir:

In response to the Examiners' request in the personal interview conducted February 5, 2003, Applicant respectfully submits the following summary of points discussed during that personal interview.

First, however, Applicant wishes to thank Primary Examiner Nguyen and Examiner Kapadia for taking time from their busy schedule for the courteous and professional interview with Applicant's representative and to exchange viewpoints on the claim wording of the present invention. It is felt that this interview has been very beneficial in expediting prosecution.

Claims 1-5, all of the claims pending in the present Application, stand rejected under 35

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USC §103(a) as unpatentable over US Patent 5,970,464 to Apte et al., further in view of US Patent Application Publication No. US 2001/0020229 to Lash.

As discussed during this interview, the present invention differs from the prior art of record at least in that it provides a technique analogous to a closed loop, as explained briefly in lines 20-25 of page 33 of the specification, by applying statistical constraints as an integral part of the method for splitting larger segments into smaller segments. That is, even if Apte did automatically execute a fine tuning process, which the Examiner considers as being obvious to do, it would still fail to achieve the technique of the present invention, as described exemplarily by the limitation in claim 1: “evaluating at least one generated segment to determine whether it satisfies at least one statistical constraint”.

As indicated on page 4 of the Office Action dated April 23, 2002, the Examiner interprets “actual pure premium” as a “statistical constraint”.

However, the phrase “actual pure premium”, as used in Apte, column 3, lines 20-33, refers to “estimated quarterly pure premium”, as demonstrated in the illustrative example that immediately follows the use of the phrase “actual pure premium” (Apte, column 4, lines 1-5). Thus, “actual pure premium”, as used in Apte, refers to an estimated value.

As mentioned during the interview, the phrase “statistical constraint”, as used in the present application, has no counterpart in Apte, nor in any prior method for constructing segmentation-based models that Applicant is aware of (with the possible exception of constraints on the number of training data records of various types that must fall into each segments, which exception is not a “statistical constraint” as would be commonly understood in the art). This use of applying statistical constraints to guide the process of splitting larger segments into smaller suitable population segments is a distinguishing feature of the present invention that provides the “closed loop” technique for generating segments heretofore unknown in the art.

A “statistical constraint”, as used in the present application, is a condition that the disclosed invention attempts to satisfy using a closed-loop process for constructing segmentation-based models. That is, a “statistical constraint” is not itself an estimated value.

As discussed during the interview, the technique described at lines 34-37 of column 4 of Apte would be understood as deleting segments that were previously identified by the process described at lines 23-27 of column 7, rather than generating new segments, let alone generating segments as guided by confirming that a proposed segment undergo a statistical evaluation.

As discussed during the interview, the scenario analysis in Apte utilizes a segmentation-based model that is produced as a result of the initial data mining. Hence, the scenario analysis must necessarily be performed after data mining is performed. The data mining process disclosed in Apte analyzes historical policy and claims data in order to segment policyholders into homogeneous risk groups. Scenario analysis then provides a method for adjusting the eligibility criteria for an insurance product so as to exclude those risk groups identified in the segmentation-based model whose pure premiums are too high relative to the actual (or anticipated) premium (to be) charged for the insurance product.

In contrast, the phrase “selecting a final plurality of segments that have satisfactory evaluations”, as used in the present application, refers to a method step to segment policyholders into homogeneous risk groups prior to performing scenario analysis. As recited in claim 1, in the present invention, the proposed segments themselves are first evaluated by confirming that a segment satisfies statistical constraints.

Even if, as suggested by Primary Examiner Nguyen during the interview, that the scenario evaluation described in Apte were interpreted as generating new segments by reason that some of the segments initially identified by the data mining might be recombined into larger segments, this interpretation would still fail to demonstrate that any of the segments in Apte, whether the original segments identified by the initial data mining or the segments as recombined during the subsequent scenario analysis, are tested to confirm that statistical constraints are met by the segment(s). This testing of the segments for compliance with statistical constraints clearly differentiates the present invention from Apte.

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In view of the foregoing, Applicant submits that claims 1-5, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Date: _____

2/7/03

Respectfully Submitted,



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